

*Thermometrical Observations in Quito, Ecuador. Farenheit. C. B. Brockway.*

*(Read before the American Philosophical Society, September 19, 1884.)*

Brockway.]

DATED 1858.	9 A. M.	12 M.	3 P. M.	9 P. M.	REMARKS.
September 17			66°	64°	Elevation above sea level 9492 feet. Latitude 0° 15' S., Longitude 78° 45' W.
" 18	65°	66°	65	61	
" 19	63	65	63	61	
" 20	62	65	65	62	
" 21	60	62	62	61	
" 22	61	63	64	61	
" 23	61	63	63	62	
" 24	61	63	63	58	
" 25	60	63	62	60	
" 26	61	62½	62	58	
" 27	59	62	62	60	
" 28	60½	62	62	61	
" 29	60	62½	63	61	
" 30	61	64	62½	60	
October 1	59	60	60	56	Rain in the afternoon.
" 2	60	61	60	53	Rainy until near evening.
" 3	60	61	62	59	Clear.
" 4	60	61	63	54	"
" 5	59	62	64	53	Hail and rain in afternoon.
" 6	61	64	64	55	Clear.
" 7	61	63	64	55	Cloudy after 4 P.M.
" 8	62	63	64	54	Cloudy from 4 to 6 P.M. Comet visible in evening.
" 9	61	63	64	60	Morning and evening clear. A little rain in afternoon.
" 10	61	62	63	60	Clear.
" 11	59	62	64	55	"
" 12	54	62	63	56	"

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October	13	60	63	64	56	Clear.
"	14	59	62	62	55	Cloudy all day.
"	15	58	61	62	55	" "
"	16	59	61	61	56	Clear.
"	17	56	62	63	54	"
"	18	62	65	62	54	Clear in forenoon. A little rain towards evening.
"	19	56	62	63	55	Cloudy part of the day.
"	20	56	63	62	53	Clear morning and evening. Cloudy at noon.
"	21	59	63	63	55	Clear morning. Sudden haze at dark for a few minutes.
"	22	61	62	64	54	Clear.
"	23	56	64	64	54	Clear in forenoon. Towards evening rain, thunder and lightning.
"	24	55	65	62	53	Clear in forenoon. Cloudy from 3 to 4 P.M.
"	25	59	62	63	55	Clear until evening, then rain.
"	26	60	62	62	53	Cloudy day and rainy evening.
"	27	55	64	65	56	Clear day and cloudy evening.
"	28	60	64	65	57	Clear day.
"	29	61	64	62	55	Clear forenoon. Rain in afternoon.
"	30	59	64	63	58	Hard shower in the afternoon.
"	31	63	65	66	55	Rain in afternoon.
November	1	64	66	63	54	Rain in afternoon and heavy thunder.
"	2	60	64	61	53	Hail large as peas; thunder and lightning all afternoon.
"	3	60	62	63	54	Cloudy; slight rain; a beautiful rainbow; first seen.
"	4	60	62	61	54	Cloudy all day. Heavy shower at 1 P.M.
"	5	58	59	59	51	Cloudy all day; gloomy; rainy all day.
"	6	61	63	62	54	Rain, thunder, lightning, in afternoon.
"	7	59	62	59	51	Clear morning. Rain in afternoon.
"	8	61	63	61	50	Rain in afternoon.
"	9	62	62	61	51	Clear morning. Rain in afternoon.
"	10	58	61	61	49	" " " "
"	11	61	63	62	52	Very little rain during the day.
"	12	61	61	62	48	Gloomy and rainy day. Beautiful and moonlight eve.
"	13	60	61	59	55	Slight rains in the afternoon.
"	14	59	61	59	53	A very hard shower accompanied by loud thunder.

DATED 1858.	9 A. M.	12 M.	3 P. M.	9 P. M.	REMARKS.
November 15	56°	59°	59°	51°	Cloudy all day. Rainy in afternoon.
" 16	61	62	62	52	Pleasant forenoon. Rainy in afternoon.
" 17	60	62	61	55	Rained in the night, a thing unusual.
" 18	62	64	63	53	Beautiful morning. Hard shower at 9 A.M.
" 19	59	62	61	54	Cloudy in the forenoon. Rain in afternoon.
" 20	59	61	61	54	Gloomy day, accompanied with rain.
" 21	58	60	61	54	Gloomy day; cloudy; no rain.
" 22	58	60	60	53	Gloomy day; cloudy; misty; no rain.
" 23	59	63	61	54	Sun again seen. Rain in afternoon.
" 24	60	61	62	54	Sun seen again. Shower at noon.
" 25	58	60	61	55	Gloomy day; a little rain; clear evening.
" 26	60	62	62	54	Gloomy day; hard shower in the evening.
" 27	59	60	59	53	Rained all day and night.
" 28	59	62	61	55	Pleasant morning. Hard showers all afternoon.
" 29	60	63	62	55	Clear day.
" 30	60	63	62	55	Hard shower at 9 P.M.
December 1	61	64	62	53	Forenoon pleasant. Showers at 3 P.M.
" 2	59	63	63	55	Cloudy all day; some rain.
" 3	63	64	63	53	Fine morning. Hard rain all afternoon.
" 4	61	61	62	54	A dismal day; hard rains.
" 5	61	62	62	53	A dismal day; some rain.
" 6	59	60	60	53	A dismal day; constant rains.
" 7	59	60	60	52	A shower about noon; pleasant afterwards.
" 8	59	60	60	53	Fine forenoon. Heavy showers all afternoon.
" 9	59	62	62	54	A pleasant day.
" 10	60	61	60	52	Rained some.
" 11	60	62	62	53	Fine forenoon. Showers in afternoon.
" 12	62	64	62	53	Pleasant until 3 P.M., then had a heavy thunder storm.
" 13	60	63	63	54	Thunder in afternoon. Rain in evening.
" 14	59	63	62	53	Pleasant forenoon; stormy afternoon.
" 15	60	63	61	52	Heavy thunder and hail storm about 2 P.M.; some rain.

December	16	61	63	62	55	Pleasant forenoon ; some rain after.
"	17	60	63	62	55	Some rain forenoon. Beautiful evening.
"	18	60	62	61	54	Hard showers in afternoon.
"	19	61	63	63	55	Clear day ; rain about 9 P.M.
"	20	62	65	64	55	Fine morning. Rain in afternoon.
"	21	61	63	64	56	Fine day.
"	22	61	63	63	57	"
"	23	62	63	63	56	Rain in the afternoon. Fine evening.
"	24	63	65	62	54	Fine morning. Rain most of the afternoon.
"	25	63	65	63	52	Fine morning. Rain towards evening.
"	26	62	63	62	54	Gloomy, drizzly, and rainy all day.
"	27	63	64	62	54	A fine morning ; the day ending in rain.
"	28	61	63	63	53	Clear.
"	29	62	64	63	53	Pleasant day ; thunder, but no rain.
"	30	60	62	63	56	Rain about 9 A.M. Afternoon cloudy.
"	31	62	64	63	55	Drizzly rain from 3 P.M. and during the night.
1859.						
January	1	61	64	63	55	Rain from 1 to 3 P.M., afterwards clear.
"	2	59	61	62	55	Rain from 6 to 9 A.M., afterwards clear until 4 P.M.
"	3	62	64	63	50	Constant showers from 4 P.M until dark.
"	4	62	63	62	52	Rain, with sharp lightning and loud thunder from 2 to 5½ P.M.
"	5	61	63	63	52	Clear and beautiful.
"	6	60	62	64	54	Clear except a short time afternoon.
"	7	62	65	66	56	Cloudy afternoon ; Rain began at 8 P.M.
"	8	63	65	62	50	Rain during the afternoon.
"	9	61	60	61	53	Rainy day and evening.
"	10	62	63	63	53	Clear.
"	11	63	64	65	56	"
"	12	63	65	65	53	"
"	13	62	64	63	52	Rain and hail between 3 and 4 P.M.
"	14	62	64	64	55	Cloudy morning. Clear afternoon.
"	15	62	64	64	55	Slight rain towards night.
"	16	62	64	64	55	A few drops of rain about 5 P.M.
"	17	62	64	64	55	" " " "

DATED 1859.		9 A. M.	12 M.	3 P. M.	9 P. M.	REMARKS.
January	18	62°	64°	64°	55°	Cloudy day ; a little rain towards night.
"	19	61	63	63	57	Some rain last night. Cloudy day.
"	20	62	63	64	53	Clear.
"	21	60	62	63	51	Clear, except morning cloudy.
"	22	62	64	65	51	Hard showers ; loud thunder ; sharp lightning.
"	23	61	63	63	52	Pleasant forenoon. A little rain in afternoon.
"	24	61	64	63	54	Cloudy morning. Rain set in about dark.
"	25	61	64	64	53	Clear day ; rain about 8 P. M.
"	26	62	65	65	54	A little rain about 3 P. M.
"	27	61	64	65	55	Clear.
"	28	63	66	65	56	Clear forenoon. Cloudy afternoon.
"	29	61	64	64	56	Rain during the afternoon.
"	30	62	64	64	56	" "
"	31	61	64	64	54	" "
February	1	61	64	65	58	Cloudy.
"	2	60	62	63	53	Rain in afternoon.
"	3	61	63	64	53	Rain at 3 P. M.
"	4	62	65	63	52	Hail at 1 P. M.
"	5	61	63	64	54	Clear.
"	6	62	63	64	54	"
"	7	61	64	65	59	Clear ; rain night.
"	8	62	63	64	54	Cloudy ; a little rain in night.
"	9	60	60	61	52	" " "
"	10	61	62	58	53	Rain 1 P. M.
"	11	60	63	63	54	Little rain 1 P. M.
"	12	61	64	64	57	Cloudy afternoon.
"	13	61	64	64	56	Rain between 3 and 4 P. M.
"	14	62	65	63	57	Clear.
"	15	62	65	65	59	"
"	16	62	65	65	58	"
"	17	63	63	63	57	"

February	18	64	66	66	57	Clear.
"	19	64	68	69	57	Slight fall of rain.
"	20	62	65	66	58	Clear.
"	21	64	65	66	57	A little rain about dark. (There is no dusk under the Equator.)
"	22	64	66	66	56	Rainy afternoon.
"	23	64	65	66	56	" "
"	24	64	65	65	56	A little rain afternoon.
"	25	63	65	63	54	At noon commenced hailing, but finally turned to rain.
"	26	62	64	62	54	Rain most of the afternoon.
"	27	61	63	64	53	Clear.
"	28	63	65	66	57	" "
March	1	61	63	65	57	Some rain after 4 P.M., and slight one in the morning.
"	2	62	64	63	55	" " " " "
"	3	60	62	63	54	Rain in afternoon and night.
"	4	60	61	61	54	Heavy shower in morning and afternoon.
"	5	60	62	59	49	Rainy day.
"	6	60	61	60	52	Rainy afternoon.
"	7	59	60	60	48	Rainy from 11 A.M. until night.
"	8	59	62	64	54	No rain until after 4 P.M.
"	9	61	63	63	57	" " "
"	10	62	63	66	55	" " "
"	11	60	63	62	57	" " " <i>Earthquake shock at 8 A.M.</i>
"	12	61	64	64	54	" " "
"	13	62	64	65	56	" " "
"	14	61	63	64	55	Clear.
"	15	62	64	66	59	" "
"	16	61	63	64	56	Rain in afternoon.
"	17	63	65	65	57	" "
"	18	61	63	62	56	" "
"	19	59	61	60	55	" "
"	20	59	64	60	56	Hail and rain in afternoon.
"	21	59	62	60	55	Rain after 2 P.M.
"	22	59	62	62	57	Rain after dark. <i>Heavy earthquake shock at 8½ A.M.*</i>
"	23	58	62	62	56	Rain after 4 P.M.

\*For note see page 684.

DATED 1859.		9 A. M.	12 M.	3 P. M.	9 P. M.	REMARKS.
March	24	60°	65°	64°	59°	Very little rain afternoon.
"	25	61	62	63	55	" " "
"	26	58	61	63	54	Rain most all day.
"	27	59	60	60	55	" " "
"	28	59	61	61	54	" " "
"	29	59	62	59	53	" " "
"	30	57	58	58	54	" " "
"	31	57	58	57	53	" " "
April	1	54	56	56	52	" " "
"	2	59	58	57	51	Clear morning. Rain and hail from noon until 4 P.M.; then clear.
"	3	56	58	57	53	Rain from noon till night.
"	4	56	58	57	53	Rainy.
"	5	56	56	56	53	"
"	6	58	58	57	54	Clear until noon, after which, rain.
"	7	58	59	59	53	A little rain about 4 P.M.
"	8	56	59	59	54	Clear forenoon. Cloudy afternoon.
"	9	58	61	61	56	Some rain between 4 P.M. and dark.
"	10	58	60	60	55	" " " and at 9 P.M.
"	11	59	62	60	56	Rain in evening.
"	12	59	60	62	55	Clear.
"	13	58	59	59	54	"
"	14	58	61	61	55	A little rain at noon.
"	15	59	61	61	54	Clear.
"	16	59	63	61	55	"
"	17	60	63	61	54	"
"	18	60	63	63	55	A little rain about noon. Rained hard at 9 P.M.
"	19	61	62	60	53	A little rain about noon
"	20	59	62	63	57	Clear.
"	21	61	61	63	54	"
"	22	61	62	64	53	"

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April	23	61	62	64	53	Cloudy.
"	24	59	61	61	56	A little rain about noon.
"	25	61	62	61	55	A hard shower a little after noon.
"	26	59	62	58	53	Cloudy afternoon and a little rain.
"	27	60	62	62	55	Rain and clouds most of the day.
"	28	60	63	62	56	Rain at noon and at 3 P.M.
"	29	60	63	60	55	Rain about 2 P.M.
"	30	60	61	61	54	Lightning, thunder and rain.
May	1	59	58	57	51	Rainy.
"	2	58	62	63	53	Clear.
"	3	59	59	58	53	Rainy.
"	4	59	60	60	53	"
"	5	60	62	61	53	Some rain in afternoon, with hail.
"	6	59	62	60	53	Rain, hail, thunder and lightning during afternoon.
"	7	59	62	61	54	A little rain about 4 P.M.
"	8	58	63	61	54	Cloudy and windy afternoon; thick fog between 7 and 8 P.M.
"	9	54	57	58	48	Rainy, but clear evening.
"	10	58	60	61	51	Hard showers with rain after 3 P.M.
"	11	58	62	60	51	Lightning, thunder and rain during afternoon.
"	12	58	62	60	52	Cloudy afternoon; a little rain about sunset.
"	13	57	59	59	51	A drizzling rain all day.
"	14	57	59	58	52	A cloudy day; rainy afternoon and evening.
"	15	57	59	58	54	Rain afternoon and night.
"	16	57	58	58	51	Rainy day and night.
"	17	56	57	57	51	Rainy afternoon.
"	18	56	59	58	52	Cloudy day; rain after 4 P.M.
"	19	55	55	56	54	Rainy afternoon. <i>Heavy earthquake shock after 3½ A.M.</i>
"	20	56	58	57	51	Cloudy and windy; rain in afternoon.
"	21	55	58	56	53	Cloudy.
"	22	55	59	59	54	Clear.
"	23	56	61	60	54	Cloudy and windy; in afternoon thunder and lightning.
"	24	56	58	58	50	Clear; windy afternoon for Quito.
"	25	56	59	60	49	Clear.
"	26	56	59	61	51	"



DATED 1859.		9 A. M.	12 M.	3 P. M.	9 P. M.	REMARKS.
May	27	56 <sup>o</sup>	60 <sup>o</sup>	62 <sup>o</sup>	49 <sup>o</sup>	Clear.
"	28	56	61	62	53	"
"	29	58	62	61	50	"
"	30	58	61	62	56	"
"	31	60	65	65	56	"
June	1	59	65	63	56	"
"	2	60	64	65	56	" considerable wind.
"	3	60	63	64	56	"
"	4	60	64	65	54	"
"	5	60	64	64	54	"
"	6	60	64	64	56	" and windy.
"	7	61	64	65	55	" " about noon.
"	8	60	62	65	55	"
"	9	60	64	65	55	"
"	10	61	63	63	56	"
"	11	61	64	63	56	Some clouds ; rain after 4 P.M.
"	12	61	63	62	56	Clear until noon, then a shower.
"	13	61	63	63	57	Floating clouds all day.
"	14	61	63	64	53	Clear.
"	15	61	64	64	54	"
"	16	61	64	64	54	"
"	17	61	64	64	53	"
"	18	59	64	64	53	"

\* On the 22d of March was one of the heaviest earthquakes that ever occurred in Ecuador, not only as to loss of life, but as to surface transformations. It may be noted that the temperature was comparatively unchanged.—C. B. B.